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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			JELINEK, BRIAN J	
			ART UNIT	PAPER NUMBER
			2622	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,333

Applicant(s)

DEFAY, PATRICK

Examiner

Brian Jelinek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22, 24 and 29-37 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 11-22, 24 and 29-37 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

The Examiner respectfully submits a response to the amendment received on 12/13/2005 of application no. 09/786,333 filed on 3/8/2001 in which claims 11-22, 24, and 29-37 are currently pending.

Arguments

The Applicant's arguments have been fully considered but they are not persuasive. Please refer to the following office action, which clearly sets forth the reasons for non-persuasiveness.

Claim Objections

Claims 30 and 34-35 are objected to because of the following informalities:

Regarding claim 30, the claim recites "the method of using a camera according to claim 22", however, claim 22 is not a method claim. The Examiner suggests substituting "the camera" for "the method of using a camera".

Regarding claim 34, the claim recites "the camera according to claim 24", however, claim 24 is a method claim. The Examiner suggests substituting "the method" for "the camera".

Regarding claim 35, the claim recites the limitation "an objective support configured to support **and** objective having an objective focal plane and a main optical axis". Appropriate correction is required.

Invocation - 35 USC § 112, Sixth Paragraph

The Applicant's invocation of 35 USC § 112, sixth paragraph for the examination of claims 22 and 24 is acknowledged. Please clarify if this is not the Applicant's intent.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 32-34, and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Regarding claim 32-34, and 36, the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, the specification does not disclose "an optical path from the objective support to the optical viewfinder is shorter than an optical path from the objective support to the spectral splitter".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 13, 17, and 21-22, 24, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Pat. No. 3,692,394), and further in view of Ohshima et al. (U.S. Pat. No. 4,812, 911).

Regarding claim 11, Bauer discloses a camera comprising: an objective support configured to support an objective (Fig. 1, lens 14) having an objective focal plane (Fig. 1, element 20) and a main optical axis (arrow entering lens until rotary reflective shutter 16); an optical viewfinder (Fig. 1, eyepiece 28) located off the main optical axis and configured to provide an off-field view image because the light reaching the optical viewfinder is different from the light reaching the imaging plane, the light of the optical viewfinder being designated the off-field view (Fig. 1); and a shutter configured to allow the light of the main optical axis to pass through the shutter, in an open position, and configured to direct the light to the viewfinder along a viewfinder optical axis, in a closed position (Fig. 1, element 16).

Bauer does not disclose a spectral splitter configured to split light passing along the main optical axis into spectral components; photoelectric-effect sensors each configured to receive a respective one of the spectral components; and a shutter configured to direct the light to the viewfinder along a viewfinder optical axis, in a closed position, without further change of the viewfinder optical axis.

However, Ohshima discloses a spectral splitter configured to split light passing along the optical axis into spectral components (Fig. 1, element 8); and photoelectric-effect sensors each configured to receive a respective one of the spectral

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components (Fig. 1, element 9A-9C). One of ordinary skill in the art at the time of the invention would have substituted the spectral splitter and photoelectric-effect sensors for the film of Bauer in order to capture digital images in studio quality. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the spectral splitter and photoelectric-effect sensors for the film of Bauer in order to capture digital images in studio quality.

Furthermore, Bauer discloses the claimed invention except for the presence of prism 24 used to redirect the light reflected by the shutter to the eyepiece. It would have been obvious to one of ordinary skill in the art at the time of the invention to have eliminated the prism if the eyepiece was located such that the light need not be redirected after being reflected by the shutter since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

Regarding claim 13, Bauer discloses the shutter comprises at least one rotative element including at least one mirror part corresponding to the closed position and at least one aperture part corresponding to the open position (Fig. 1, elements 30 and 32).

Regarding claim 17, Bauer discloses the at least one rotative element includes at least two mirror parts and at least two aperture parts, the mirror parts all cover a first angular sector and the aperture parts all cover a second angular sector (Fig. 2, elements 16, 30, 32).

Regarding claim 21, Ohsima discloses an adapter (Fig. 1, lenses 3 and 4; col. 3, lines 12-19) configured to receive the light passing along the optical axis after having passed through the shutter and the focal plane, wherein the spectral splitter is configured to receive the light passing along main optical axis after having passed through the adapter and is configured to split the received light along separate split patterns, and the shutter is positioned between the objective and the objective focal plane.

Regarding claim 22, please see the rejection of claim 11.

Regarding claim 24, please see the rejection of claim 11.

Regarding claim 32, Bauer in combination with Ohshima teach an optical path from a light entrance point of the camera to the optical viewfinder is shorter than an optical path from the light entrance point of the camera to a location of the light splitting because the light reflected from the rotary reflective shutter 16 may pass directly to the eyepiece 28 if the optical path does not need to be redirected (see claim 11), or through at most one optical element (prism 34) if redirection is necessary. In contrast, the optical path is longer for a spectral component 9B (Ohshima: Fig. 1) because the light must pass through a minimum of two optical elements, namely prisms corresponding to 9A and 9B.

Regarding claim 33, please see the rejection of claim 32.

Regarding claim 34, please see the rejection of claim 32.

Claims 12, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Pat. No. 3,692,394), in view of Ohshima et al. (U.S. Pat. No. 4,812, 911), in view of Hines (U.S. Pat. No. 6, 122, 455), and further in view of Glenn (U.S. Pat. No. 4,667,226).

Regarding claim 12, Bauer discloses the camera comprises at least one mode in which the shutter periodically switches between the closed and the open positions (Abstract: lines 1-4). Bauer does not disclose the switching period is smaller than the duration of retinal persistence.

However, Glenn teaches a reflecting rotating shutter (col. 4, lines 51-60; Fig. 1, element 101) that switches at a rate of 60 times per second (16.7 milliseconds/switch) (col. 2, lines 17-25). Furthermore, Glenn teaches motion reduces perception for about 300 milliseconds (col. 3, lines 49-51). Clearly, the switching period is smaller than the duration of retinal persistence. It would have been obvious to one of ordinary skill in the art at the time of the invention to configure the switching rate of the shutter to be consistent with typical video frame rates (~30 full frames per second or ~60 interlaced frames per second) (col. 1, lines 35-40 and 65-70; col. 2, lines 8-10) . As a result, one of ordinary skill in the art would have configured the switching period to be smaller than the duration of retinal persistence in providing video at standard frame rates.

Regarding claim 14, Bauer discloses a conventional motor control circuit provides speed control for a rotating shutter (Fig. 2, element 52; col. 2, lines 53-56). Bauer does not disclose a control device maintaining the at least one rotative element at a speed of rotation proportional to a frequency of a synchronization signal used for

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reading of the photoelectric-effect sensors; and a position sensor configured to detect a position of the at least one rotative element, the position sensor and the control device enabling the at least one rotative element to be phase-shifted with respect to the synchronization signal.

However, Glenn teaches an automatic control device (a motor control comprising a phase locked loop circuit) for the at least one rotative element (Fig. 1, element 190; Fig. 4, element 195) at a speed of rotation proportional to the frequency of a signal given by a processing means (Fig. 1, element 190; Fig. 4, element 191) to the automatic control device (col. 5, lines 14-41), the signal being a synchronization signal for the reading of the sensors by a processing means (col. 5, lines 23-26), and in that the camera comprises a sensor of the position of the at least one rotative element (Fig. 1, element 40), the position sensor and the automatic control device enabling the at least one rotative element to be phase-shifted with respect to the synchronization signal (col. 5, lines 47-51). One of ordinary skill in the art would have provided the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60 Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera (col. 5, lines 47-60). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60 Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera.

Regarding claim 15, Glenn discloses the photoelectric-effect sensors are frame transfer sensors (col. 3, lines 14-19).

Claims 16, 18-19, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Pat. No. 3,692,394), in view of Ohshima et al. (U.S. Pat. No. 4,812, 911), in view of Hines (U.S. Pat. No. 6, 122, 455), and further in view of Okada et al. (U.S. Pat. No. 4,758,905).

Regarding claim 16, Bauer discloses the shutter comprises modes that can be selected by a user, including: a viewfinder mode fixing the at least one rotative element at a position in which the mirror part intersects the main optical axis (col. 1, lines 6-16; col. 2, lines 59-65); and a combined mode spinning the at least one rotative element such that the mirror part and the aperture part periodically intersect the main optical axis at a period smaller than a duration of retinal persistence (col. 2, lines 4-28; also see rejection of claim 12).

Neither Bauer nor Ohshima disclose a shutter mode comprises a user selectable video mode corresponding to at least one rotative element that always has an aperture part that intersects the main optical axis. However, Okada discloses a shutter mode comprises a user selectable video mode corresponding to at least one rotative element that always has an aperture part that intersects the main optical axis (col. 8, lines 26-42). One of ordinary skill in the art would have configured the shutter to remain continuously open for the purpose of capturing images continuously (col. 8, lines 26-42). As a result, it would have been obvious to one of ordinary skill in the art at the time of

the invention to have provided a video mode fixing at least one rotative element at a position in which the aperture part intersects the main optical axis for the purpose of capturing images continuously.

Regarding claim 18, Bauer discloses a reflective rotating shutter. Neither Bauer nor Ohshima disclose there are at least two rotative elements having a same axis of rotation and offset by an angular offset such that the mirror parts of the at least two rotative elements overlap at least partially.

However, Okada discloses the shutter comprises at least two rotative elements having a same axis of rotation and offset by an angular offset such that the mirror parts of the rotative elements overlap at least partially (Fig. 1, elements 1, 2, 3, and 5; col. 3, line 59-col. 4, line 16). One of ordinary skill in the art would have provided overlapping shutter blades for the purpose of enabling a user to adjust the size of each opening (col. 4, lines 14-17). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the overlapping shutter blades of Okada with the reflecting rotating shutter of Bauer for the purpose of enabling a user to adjust the size of each opening.

Regarding claim 19, Okada further discloses the angular offset can be selected by the user (col. 3, line 59-col. 4, line 18; Fig. 1, elements 1, 2, and 3).

Regarding claim 37, neither Bauer, Ohshima, nor Hines teach the combined shutter/reflector comprises at least two rotative elements with the same axis of rotation, configured to traverse the main optical axis by rotation and to be shifted by an angular

offset such that an overlapping portion of the at least two rotative elements can be varied.

However, Okada discloses the combined shutter/reflector comprises at least two rotative elements with the same axis of rotation, configured to traverse the main optical axis by rotation and to be shifted by an angular offset such that an overlapping portion of the at least two rotative elements can be varied (Fig. 1, elements 1, 2, 3, and 5; col. 3, line 59-col. 4, line 16). One of ordinary skill in the art would have provided overlapping shutter blades for the purpose of enabling a user to adjust the size of each opening (col. 4, lines 14-17). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the overlapping shutter blades of Okada with the reflecting rotating shutter of Bauer for the purpose of changing exposure times.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Pat. No. 3,692,394), in view of Ohshima et al. (U.S. Pat. No. 4,812, 911), and further in view of Anderson (U.S. Pat. No. 6,215,523).

Regarding claim 20, Ohshima discloses splitting imaging light into different light components and then capturing each component on a different image pickup element. Neither Bauer nor Ohshima disclose a screen to view the synthesis of the different light components after their passage into a processing means.

However, Anderson discloses a camera comprising an LCD screen 402 (Fig. 3). One of ordinary skill in the art would have provided an LCD screen in order to view

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captured images. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a screen configured to display the synthesis of the light components after passage into processing means in order to view captured images.

Claims 29-31, 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Pat. No. 3,692,394), in view of Ohshima et al. (U.S. Pat. No. 4,812, 911), and further in view of Hines (U.S. Pat. No. 6,122,455).

Regarding claim 29, neither Bauer nor Ohshima disclose the off-field view image includes a useful field image detected by the photoelectric-effect sensors and a peripheral field image contacting a periphery of the useful field image.

However, Hines discloses a viewfinder with a wider field of view than will actually be photographed (Fig. 7A). One of ordinary skill in the art would have configured the viewfinder of Bauer with a wider field of view than will actually be photographed in order to help the photographer compose the picture (col. 6, lines 46-48). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have configured the viewfinder of Bauer to include a useful field image detected by the photoelectric-effect sensors and a peripheral field image contacting a periphery of the useful field image for providing a viewfinder with a wider field of view than will actually be photographed in order to help the photographer compose the picture.

Regarding claim 30, please see the rejection of claim 29

Regarding claim 31, please see the rejection of claim 29.

Regarding claim 35, Bauer discloses a camera comprising: an objective support configured to support an objective (Fig. 1, lens 14) having an objective focal plane (Fig. 1, element 20) and a main optical axis (arrow entering lens until rotary reflective shutter 16); an optical viewfinder (Fig. 1, eyepiece 28) located off the main optical axis and configured to provide an off-field image because the light reaching the optical viewfinder is different from the light reaching the imaging plane, the light of the optical viewfinder being designated the off-field view (Fig. 1); and a combined shutter/reflector configured to allow the light of the main optical axis to pass through the shutter, in an open position, and configured reflect the light of the main optical axis to a viewfinder optical axis, in a closed position, the light being directed to the optical viewfinder (Fig. 1, element 16).

Bauer does not disclose an image sensor configured to produce an image at least from a light of the main optical axis; a focal plane adapter located between the objective focal plane and the image sensor, configured to produce an adapted focal plane onto the image sensor; and a combined shutter/reflector configured to reflect light to the optical viewfinder without further change of the viewfinder optical axis, wherein the off-field image is configured to produce a wider field of view than the image of the image sensor.

However, Ohshima discloses an image sensor configured to produce an image at least from a light of the main optical axis (Fig. 1, element 9A-9C); and a focal plane adapter located between the objective focal plane and the image sensor, configured to produce an adapted focal plane onto the image sensor (Fig. 1, lenses 3 and 4; col. 3,

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lines 12-19). One of ordinary skill in the art would have provided a focal plane adapter in order to allowing mounting of an adapter without changing the magnification of the lens system (col. 3, lines 12-19). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a focal plane adapter in order to allowing mounting of an adapter with a built-in shutter arranged to be attached between a master lens and a camera body without changing the magnification of the lens system.

Furthermore, Bauer discloses that prism 24 is used to redirect the light reflected by the shutter to the eyepiece. It would have been obvious to one of ordinary skill in the art at the time of the invention to have eliminated the prism if the eyepiece was located such that the light need not be redirected after being reflected by the shutter since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. In re Karlson, 136 USPQ 184.

Neither Bauer nor Ohshima disclose the off-field image is configured to produce a wider field of view than the image of the image sensor.

However, Hines discloses a viewfinder with a wider field of view than will actually be photographed (Fig. 7A). One of ordinary skill in the art would have configured the viewfinder of Bauer with a wider field of view than will actually be photographed in order to help the photographer compose the picture (col. 6, lines 46-48). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have

configured the viewfinder of Bauer to produce a wider field of view than the image of the image sensor in order to help the photographer compose the picture.

Regarding claim 36, please see the rejection of claim 32.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Jelinek whose telephone number is (571) 272-7366. The examiner can normally be reached on M-F 9:00 am - 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-

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Yen Vu can be reached at (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Jelinek
3/17/2006

A handwritten signature in black ink, appearing to read 'Ngoc-Yen Vu', with a long horizontal flourish extending to the right.

NGOC-YEN VU
SUPERVISORY PATENT EXAMINER